

PATENT  
APPLICATION NO. 09/553,941

## CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application. Please amend the claims as follows:

Listing of Claims:

01

1. (Currently Amended) A method of communication in an automation environment comprising a plurality of network devices, each network device having a software program stored therein, wherein each network device is positioned at a physical location and wherein each network device is adapted to perform a designated function according to the physical location of said each network device, so that the designated functions of the network devices can be carried out in a coordinated way as required in the automation environment, said method comprising the steps of:

identifying the physical location of said each network device using a physical site locator; and

associating the identified physical location to a network address in the automation environment, so that the network address associated to said each network device can be used to cause the stored software program to carry out the designated function of said each network device in the automation environment in relation to other network devices in the automation environment.

2. (Original) The method of claim 1, wherein the address of the device is a MAC address.
3. (Original) The method of claim 1, wherein the address of the device is an IP address.

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4. (Original) The method of claim 1, further comprising the step of transmitting from the device the physical location and the address thereof to a controlling station so as to allow the controlling station to associate the physical location to the address for conveying signals to the device.
5. (Original) The method of claim 4, wherein the device has an intended function controlled by a software program, said method further comprising the step of loading the software program from the controlling station to the device after the physical location of the device is identified.
6. (Cancelled)
7. (Cancelled)
8. (Currently Amended) A method of communicating with a plurality of devices in an automation environment, at least some of the devices having a software program stored therein, wherein each device is positioned at a physical location, said method comprising the step of converting a map of the physical locations of the devices into one or more address tables, each table including a plurality of network addresses for routing messages to the devices, wherein at least one of the devices comprises a programmable logic controller having a network address assigned thereto from said address table, and the physical locations of at least some of the devices are identified by a physical site locator, so as to cause the software program stored in each of said at least some of the devices to carry out a designated function coordinated in relation to designated functions of other network devices as required in the automation environment.
9. (Currently Amended) A method of communicating with a plurality of devices in an automation environment, at least some of the device having a software program stored therein, wherein each device is positioned at a physical location, said method comprising the step of converting a map of the physical locations of the devices into one or more address tables, each table including a plurality of network addresses for routing messages to the devices, wherein at

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least one of the devices comprises an I/O device of a programmable logic controller system having a network address assigned thereto from said address table, and the physical location of said at least some of the devices are identified by a physical site locator, so as to cause the software program stored in each of said at least some of the devices to carry out a designated function coordinated in relation to designated functions of other network devices as required in the automation environment.

10. (Cancelled)

11. (Currently Amended) A network communications system for use in an automation environment comprising a plurality of network devices positioned at a plurality of physical locations, at least some of the device having a software program stored therein, wherein each network device is adapted to perform a designated function required by the automation environment according to the physical location of said each network device, said system comprising:

means for identifying the physical location of said each network device in the automation environment using a physical site locator; and

means for associating the identified physical location to a network address of the network communications system so that network address associated to said each network device can be used to cause the stored software program in said at least some of the devices in the automation environment to carry out the designation designated functions thereof of said devices.

12. (Original) The network communications system of claim 11, further comprising means for converting a map of the physical locations into one or more address tables in order to route messages to the devices.

13. (Original) The network communications system of claim 11, further comprising a controlling station to receive messages containing the physical locations and associate the physical locations to the addresses of the devices.

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14. (Original) The network communications system of claim 11, further comprising a local area network (LAN).
15. (Original) The network communications system of claim 11, further comprising a wide area network (WAN).
16. (Original) The network communications system of claim 11, further comprising a wireless access communications system.
17. (Original) The network communications system of claim 11, wherein each device has a unique physical location.
18. (Original) The network communications system of claim 11, wherein a plurality of devices share one of the physical locations.
19. (Original) The network communications system of claim 18, wherein each device has a MAC address and means for transmitting the MAC address and the shared physical location in a RARP message to a controlling station in order to establish the address of the device in the network communications system.
20. (Original) The network communications system of claim 18, wherein each device has an IP address and means for transmitting the IP address and the shared physical location in a RARP message to a controlling station in order to establish the address of the device in the network communications system.
21. (Currently Amended) A network device located at a physical location in an automation environment in relation to a plurality of other network devices located at a plurality of other physical locations in the automation environment, wherein the other network devices are adapted

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to perform one or more designated functions required by the automation environment, and wherein the system comprises means for identifying the physical site location of said network device using a physical site locator, said network device comprising:

a software program;  
means for performing a function designated to said network device according to the physical location of said network device as required by the automation environment; and a network address in the automation environment, wherin the network address can be associated to the physical location of said network device so that the network address can be used to cause the software program to control the performing means in order to carry out the designated function of said network device in relation to the designated function of other network devices as required in the automation environment.

22. (Original) The device of claim 21, wherein the identifying means comprises a GPS site locator.

23. (Original) The device of claim 21, wherein the identifying means comprises a TDOA device.

24. (Original) The device of claim 21, further comprising means for storing a program in order to carry out an intended function.

25. (Original) The device of claim 21, wherein the network communications system is used to perform a plurality of tasks, said device further comprising means to convey signals to an apparatus connected to the device for performing a task.

26. (Original) The device of claim 25, wherin the network communications system comprises a controlling station to oversee the tasks and wherein the signal conveying means comprises a programmable logic controller to communicate with the controlling station.

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27. (Original) The device of claim 25, further comprising means for storing a software program to carry out the task to be performed by the apparatus.

28. (new) The method of claim 1, wherein the automation environment comprises a factory automation environment.

29. (new) The network communications system of claim 11, wherein the automation environment comprises a factory automation environment.

30. (new) The network device of claim 21, wherein the automation environment comprises a factory automation environment.